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REPORT ON SOME DEFICIENCIES IN ITALY'S
SUPPLIES OF STRATEGIC WAR MATERIALS

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MEMORANDUM

February 3, 1942

To: Dr. William L. Langer

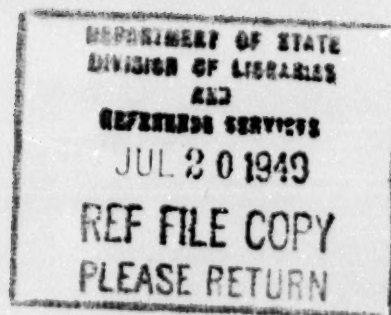
From: W. L. Dorn (S. W. A. and M. D.)

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1-11-72 from W.M. Franklin, State Dept.

By *William R. Berry* Date *10/18/72*

This memorandum contains information on:

Deficiencies in Italy's Supplies of Strategic War
Materials.



CONFIDENTIAL

DEFICIENCIES IN ITALY'S SUPPLIES OF STRATEGIC WAR MATERIALS

Introduction and Summary

Apparently nature intended Italy to be a peasant economy. With some exceptions, she is notoriously deficient in the raw materials necessary to a modern industrial society. Moreover, that Mussolini expected a short war appears to be demonstrated by the many reports of strain in Italy's present economic position. Conclusions must be tentative, but the available evidence suggests that, so far as Italy itself is concerned,¹ more or less serious deficiencies exist in the following strategic materials: coal, iron, and steel, manganese and other steel-hardening alloys, copper, tin, magnesium and petroleum; rubber, textiles and leather; explosives; insulin and phosphate; wheat, cheese and meat, olive oil and fat.

The Italian position, however, is in itself incomplete, and must be supplemented by reference to the resources of Germany and of German-controlled Europe.² If Italy is deficient in a particular material, the first question must be whether Germany can supply and transport it, and the second whether Germany will. Consideration of a series of such questions

1. This report deals with Italy proper save for the few instances, which are indicated, where Albania or the African possessions alter the situation.

2. Material on the German position is for the most part derived from the following: Charles W. Wright, "Germany's New Mineral Position", released by the Bureau of Mines for publication on Jan. 19, 1942; C.O.I. Reports of early December 1941 on "The German Mineral Supply Position", "The German Petroleum Position", "Food and Agriculture" and a draft for a C.O.I. Report on "The German Rubber Position".

demonstrates a high degree of Italian economic dependence on its Axis ally.³ Shipments have been made from Germany of materials of which Germany has an abundance provided that labor and transportation are available. Such products are coal, where exists the highest degree of dependence noted, and iron and steel. Moreover, to relieve Italian shortages, Germany has also sent manganese, copper, tin, rubber and petroleum, in none of which is the German position itself believed to be secure. To be sure, in none of these instances did Germany send more than a pittance. Moreover, there have been several recent reports that Italian production of aeroplanes, etc., was behind schedule because of German failure to send supplies to its ally.⁴

The significant fact is that Germany should send Italy any quantity of materials of which the German supply is not abundant. There could be no more significant revelation of Italian weakness. It is significant also as showing that, as long as possible, Germany must keep its Axis vassal alive. For, whereas Italy is dependent on Germany for many things, there are very few which Germany lacks and Italy can provide. Indeed, except perhaps labor, mercury, sulphur, iodine and borax are the only materials for which there is evidence to show that Italy has a surplus and Germany depends on Italy for its supply. And in each of these cases, except possibly borax, German dependence on Italy is reduced either by other European

3. The mid-December issue of Der deutsche Volkswirt is reported by a radio message of Dec. 17, 1941 from Bern to the Chicago Daily News to disclose "the increasing dependence of the Italian economy on their Nazi allies". This issue could not be found in Washington.

4. British Weekly Armaments Reports, #26--Aug. 12, #33--Oct. 4, #41--Nov. 29; hereafter cited as B.W.A.R. The author is informed that the substance of these reports has recently been confirmed to the Economic Section of the C.O.I. By the British and our own Intelligence Services.

sources (such as Spain for mercury) or the development of substitutes (as for the medical, not the industrial, uses of iodine) or its production in Germany as a by-product of other processes (sulphur). Did Italy produce a substantial surplus of olive oil or of fat, it would relieve what is believed to be one of Germany's most serious deficiencies. But Italian production of these has declined to a point where even the supply available for Italian domestic consumption is deficient. On the other hand, Italy in the period July 1940-June 1941 exported to Germany so much cheese as to bring about a deficiency in the Italian supply of this commodity also.

This appears to be an instance of German economic dominance, or conversely, of the weakness of Italian economic bargaining power against its Axis master. From this it follows that when Germany sends Italy materials of which Germany has not a plentiful supply, it is not because Italy can compel Germany to do so, but because Germany must sustain its partner. But it will not be supposed that Germany will ever fail to subordinate Italian interests to those of the Reich. Along with instances of German aid to Italy goes evidence of competition: - competition of German manufacturers in foreign markets, German outbidding of Italy, German interference with a shipment of bitumen to Italy⁵ and German absorption of Roumanian oil or African phosphates at Italian expense. There can be no doubt that Germany will assist Italy economically, or in other ways, only so long as it will thereby contribute to German hegemony.

5. B.M.E.W. - S.E.E.D. #95--July 14, #110--Oct. 22, 1941.

Sources and Abbreviations

1. B.M.E.W.-S.E.E.D.: British Ministry of Economic Warfare, Summary of Enemy Economic Developments, various dates.
2. F.C.W.: "Italy's Raw-Material Problems" in Foreign Commerce Weekly, Vol. VI, No. 1, Jan. 3, 1942, pp. 3-5
3. I.C.P.F.T.: United States Tariff Commission, Italian Commercial Policy and Foreign Trade, (Washington, 1941).
- 4 & 5. I.F.T.S. '40-41 and I.F.T.S. 1940. Reports from the U. S. Embassy at Rome, of Oct. 21, 1941 on "Italian Foreign Trade Statistics for Jan.-July 1940 and 1941" and "Italian Foreign Trade Statistics for 1940." "Obtained in strictest confidence from an authoritative source, in spite of the severe prohibition against the publication or dissemination of economic information." These reports are mines of indispensable data.
6. M. Y. B. U. S. Department of the Interior, Minerals Year Book, Review of 1940, (Washington, 1941)
7. R.W.E.R. Weekly Economic Reports of various dates from U. S. Commercial Attache at Rome.
8. W.P.R.M. The Royal Institute of International Affairs, World Production of Raw Materials, (London, 1941).

METALS AND MINERALS

Coal

Coal for Italy is one of the highly critical points in the Axis economy, involving, as it does, the difficulty of transporting approximately a million tons monthly from Germany to the peninsula.

Italy's coal resources are both meagre and of poor quality. In 1938, approximately 14,200,000 metric tons were consumed, of which only 2,400,000 tons or c. 17% were of domestic production. In terms of heating units, however, domestic production accounted for only 11.9% of total consumption.

In March of 1940, Germany agreed to provide Italy with 1,000,000 tons per month, an adequate amount, which has now to be transported by rail, whereas before the war the bulk of Italy's coal import was brought in by sea. The available evidence indicates that up to the Russian campaign, Germany almost, if not quite, lived up to this agreement. At least, in 1940 Germany sent 10,615,601 tons. Since the middle of 1941, however, there have been repeated reports that German deliveries were declining. Specific information is lacking as to either the size or causes of the deficiency. As to the latter, the coal deposits at Germany's command are adequate for the needs of both. But there have been reports of reduced output from the mines; of increased demand for coal in Germany, or for various synthetic products; and, particularly, of difficulty in transporting the coal under the conditions of strain imposed by the Russian campaign.

The reports of decreased German deliveries are confirmed by the drastic reduction in the amount of coal available for heating this winter, a reduction to 30% of the quota of a year ago.

(F.C.W.; I.F.T.S., '40-'41 and 1940; R.W.E.R., 15 XI 41)

Iron and Steel

Save for extravagant and unsubstantiated Italian claims,¹ reports indicate that Italy is confronted with a serious shortage of steel. The shortage would be even larger were it not for a large increase in imports from Germany of crude or semi-finished steel. Thereby Italian dependence on Germany is increased and the transportation problem intensified, though to a very slight degree in comparison with coal.

Italian production of both pig iron and crude steel reached new highs in 1939, respectively 958,000 and 2,375,000 metric tons. But the wartime output of steel is reported to have declined sharply since, for which the following factors may be given: lower output of pig iron, for which no figures are available; a sharp decline in imports of iron and steel scrap, iron ore and of other primary materials for steel production.

From 1933-38, Italy imported on an average more than 600,000 metric tons of iron and steel scrap per year, approximately two-thirds of which from 1936 to 1938 came from the United States. In 1940 imports totalled only 321,065 tons, and in the first half of 1941, they declined further to 81,841 tons, most of which was obtained in roughly equal amounts from France, Germany and Switzerland.

Imports of iron ore, other than pyrites, have also declined. Here the 1934-38 average was 218,100 metric tons, which was almost doubled in the 1938 importation of 385,631 tons. In 1940, imports fell to 253,068 tons (c.67% from Morocco, 26% from Spain). The first half of 1941 brought

1. B.W.A.R. No. 30, 13, IX, 41; R.W.E.R., 13, X-41.

a sharp decline, to only 89,810 tons.

In addition to primary materials, Italy normally imported a considerable quantity of crude and semifinished steel (blooms and kegs, bars and rods, bends and wires, sheets). The war has brought a striking increase in these imports, notably from Germany.

	<u>Total Imports</u> (In metric tons)	<u>Imports from Germany</u>
1938	174,921	72,714 ¹
1940	355,521	247,593
Jan-June, 1941	330,164	298,602

The increase in these figures measures both Italian need and Italian dependence on Germany.

(I.C.P.F.T., pp. 138-39, 185, 255-56; I.F.T.S. '40-'41 and 1940; M.Y.B., pp. 520, 552, 556, 558).

1. These figures through the courtesy of Mr. Kopp in the Bureau of Foreign and Domestic Commerce.

Steel-hardening Alloys

In 1938, Italy had a domestic production of c. 18,560 metric tons of metallic manganese, about 45% of normal domestic requirements. The minimal necessary balance of 21,000 tons of metal, derived from about 60,000 metric tons of ore, was imported largely from India, from which the war has cut Italy off. In 1940, imports of ore fell off sharply to 20,871 tons. That a serious deficiency has resulted is indicated by the fact that in the first half of 1941, Germany sent to Italy 3,682 tons of ferro-manganese, with a manganese content of 25 to 90%. For Germany has no manganese production to speak of, and, despite the accumulation of a large stock-pile of the metal between 1933 and 1939, was believed to be approaching a serious shortage when the Russian campaign began. Now Germany controls the great Nikopol manganese mines in the Ukraine, successful exploitation of which would more than meet the needs of the Axis.

Italian production is zero or negligible for the other important alloys: chrome, molybdenum, titanium, tungsten, vanadium, beryllium, nickel and cobalt. Small quantities of chrome from Albania, 40 tons of molybdenum ore, a few of tungsten, and 200 nickel constitute the total production. Moreover no evidence is available to the effect that Italy accumulated any considerable stock piles before the war. Here again, then, Italy is dependent on what Germany will provide or permit to reach her ally. Though apparently there is no justification for expecting a critical German shortage in any of these alloys in the immediate future, Italy is not likely to be permitted much chrome, tungsten or nickel until the German supply has been assured.

(F.C.W.; I.F.T.S., '40-'41 and 1940; M.Y.B., p. 584 and passim)

Copper and Copper Sulphate

Despite intensive effort, Italy before the war was able to produce only about 12% of its annual copper requirements which approximated 90,000 metric tons. The bulk of the balance, c. 80,000 tons, was imported from the United States and Chile, Portuguese and British South Africa, sources which are now closed.

In the first seven months of 1939, Italy imported 57,462 metric tons of copper, i.e. at a rate slightly higher than the previous monthly average. But imports totalled only 68,989 tons in 1940, and in the first six months of 1941, fell to 12,373 tons, an amount which could only portend a serious shortage. Moreover to this last amount, Germany contributed 6,154 tons, or 50%. In view of the facts that (1) Germany has never been an important source of copper for Italy, (2) Germany sent only 561 tons (including manufactures) in the first half of 1940 and (3) the entire continental (except Russia) production of copper, is hardly more than enough for Germany's own requirements, this German export to Italy in the first six months of 1941 demonstrates the need of her ally.

Yet the German contribution satisfied only a fraction of this need, which was further emphasized by the copper collection in the late fall, which is reported to have yielded only minor quantities.

The decline in copper imports is said to have left only 9,250 tons available for 1942, of which 6,650 have been reserved for copper sulphate. Hitherto this has been indispensable for wine culture, and from 25 to 30,000 tons of copper have been required for it annually. Plans are reported for substituting copper oxychloride for copper sulphate, by which it is hoped to save 35% in the quantity of copper required.

(I.C.P.F.T., p. 187; M.Y.B., pp. 104-12; R.W.E.R., 29 XI 41; Report from U.S. Consulate at Zurich, Oct. 23, 1941)

Tin

Normally Italy requires each year between 4,000 and 5,000 metric tons of tin, not more and probably less than 500 tons of which are produced from domestic sources. The deficiency has been supplied from imports, primarily drawn from the Straits Settlements.

In 1940 Italy was able to import 3,733 tons, almost enough to cover her needs, but in the first six months of 1941, imports fell to 502 metric tons, of which Germany supplied 223. As in the case of copper, the significance of this is heightened by the fact that the European (except Russia) tin production--let alone that of Germany--is insufficient to cover the Reich's consumption, although the accumulation of a large stock pile and successful development of substitutes are thought to secure the German position for the present. Italy, on the other hand, appears to face a critical shortage, which the dole from its ally does little to relieve.

(I.F.T.S., '40-'41 and 1940; M.Y.B., pp. 678-87; W.P.R.M.).

Magnesium

Estimates of Italy's productive capacity for magnesium vary between 200 and 500 metric tons per year, while data on requirements are lacking. A shortage is said to have resulted from the sharply increased use of magnesium as an alloy for aluminum, causing the production of duraluminum to be dropped. While information is also meagre on Germany's position with regard to magnesium, it is thought to be secure.

(M.Y.B., p. 708).

The Italian petroleum position is as serious in itself as that of coal, but to make it more critical, Germany has few reserves to spare, and has apparently cut down on Roumanian shipments to Italy.

The output in continental Italy is insignificant (the average annual production 1931-1938 was 18,700 metric tons), and 150,000 tons is the highest estimate for Albanian production. Normal Italian requirements are estimated in excess of 2,500,000 metric tons, a figure which approximates Italy's imports of crude petroleum and petroleum products in 1937 and in 1938. Total Italian imports in 1940 were 1,854,315 tons (net imports 1,801,111).

Of Italy's total petroleum imports in 1938, Roumania supplied c. 20%, 522,871 tons or an average of 43,573 tons per month. But since the outbreak of war, reports indicate that Germany has obtained the lion's share of Roumanian oil, while Italy's portion has fallen to c. 27,000 tons per month. (Average for 1940 and the first six months of 1941.) The importance of this reduction lies in the fact that since the Russian campaign began, Roumania is the only available foreign source of supply, excepting Germany of course. On the other hand, Germany sent her ally in the first half of 1941, 3,939 tons of gasoline and 917 of lubricants, a total of 4,856 tons.

This pittance from Germany did not prevent the total Italian imports of petroleum products from diving from 1,496,180 metric tons in the first half of 1940 to 289,950 in the first half of 1941. Then came the Russian campaign. Even if we assume that, despite this, Italy was able to continue importing through 1941 at the same rate as in the first six months (an average of 48,244 from all sources), the total would be only 578,930 tons or less than 25% of Italy's pre-war import

needs. Moreover, although information is lacking as to petroleum stocks in Italy at the beginning of the war, they are believed to have been scant. Allowing for the drastic restriction of civilian consumption, for industrial as well as for personal use, the conclusion is justified that petroleum is "one of the most vulnerable spots in the wartime economy of Italy."

(I.C.P.F.T., pp. 136,267; I.F.T.S., '40-'41 and 1940).

Graphite and Mica

Recent reports have indicated that Italy and Germany are exerting themselves to obtain supplies of these nonmetals. Although the production figures are available up to 1938 (graphite: Germany 44,958 metric tons, Italy 5,485; mica: Italy 122 metric tons) no additional evidence has been found to establish the existence of a critical shortage for either.

(Letter from Marseilles under date 25 XI 41, C.O.I. #9652; B.W.A.R. #43 - 13 XII 41, p. 8; B.M.E.W.-S.E.E.D. #95 - 14 VII 41, #109 - 20 X 41, #111 - 27 X 41; M.Y.B., pp. 1367, 1414.)

Insulin

According to British reports, there is an urgent need for insulin, which Italy has been trying to fill through negotiations for supplies from Argentina (April, 1941), and through a Portuguese intermediary. There are said to be large stores in Spain.

(B.M.E.W.-S.E.E.D. No. 85, April 30, 1941 and No. 112, Nov. 5, 1941).

Phosphate Rock

Italy is reported to be anxious about the supply of phosphate rock. The Italian press is said to have stated that the supplies of superphosphates (a mixture of rock phosphate with sulphuric and/or phosphoric acid), for agricultural use in the autumn of 1941 would be only 60 to 70% of normal and, consequently, to have expressed concern over the prospects for the 1942 harvest.

In 1937 (the latest available figure), Italy itself produced only 200 metric tons of phosphate rock. In 1937 and 1938, from 70,000 to 75,000 tons per month were imported, making totals of 924,728 and 846,843 tons respectively. The United States supplied 62,632 tons in 1937, and 45,588 in 1938. But the principal sources of Italian imports in these years were, in the order named, Morocco and Tunisia, with Egypt a close fourth to the United States. In 1940, Tunisia went into first place, supplying 478,026 tons, while Morocco was second with 197,608 tons. It is significant that none was received from Morocco in the second half of 1940. In the first six months of 1941, Tunisia sent 334,916 tons, while the only other import was 38,749 tons from Algeria.

In sum, with French North Africa so rich a source of phosphate rock, the Italian problem appears to be one of transportation, especially from Morocco, and perhaps of German competition which has been suggested.

(B.M.E.W.-S.E.E.D. No. 111, Oct.29, 1941; I.C.B.F.T., p. 265; I.F.T.S. '40-'41 and 1940; M.Y.B., pp. 1279-81, 1284).

Explosives

According to numerous British reports, Italy is largely dependent on Germany for materials for explosives and propellants, such as toluol, binitrotoluol, ammonia and nitrocellulose. It is added that, although the demands of the Russian campaign have apparently forced Germany to curtail shipments of toluol to Finland, Italy is still receiving regular consignments.

Toluol and ammonia (important in the manufacture of nitric acid) are by-products of the coking process. Hence their supply depends upon that of coal and the capacity plus availability of coke ovens. Statistics yield additional support for the British reports. In 1938, Italy imported 6923 metric tons of benzol, toluol and xylol, pure and refined. The principal sources were the United States, now cut off, Germany and the German-controlled Low Countries and Czechoslovakia.

Italy claims to have sufficient glycerine, manufactured from molasses, but is reported to have opened a credit with Sweden for 200 tons of ammonium perchlorate, the use of which as an explosive is said to have been thus far a monopoly of Japan.

(B.M.E.W.-S.E.E.D. No. 85, April 30, p.15, No. 99, June 8; No. 111, Oct. 29, No. 115, Nov. 26; B.W.A.R. No. 25, Aug. 5, No. 27, Aug. 19, No. 31, Sept. 20, No. 37, Nov. 1, 1941; I.C.P.F.T., pp.170,268; M.Y.B., p. 903).

AGRICULTURAL AND ANIMAL PRODUCTS

Rubber

The very sizable Italian rubber industry, of which production of tires and tubes is the principal branch, depends almost entirely on imports for its raw materials. In 1938, Italy imported about 40,000 metric tons of rubber (crude and secondary), which was somewhat, though not excessively, above the average. In the same year, Italy exported rubber manufactures to a value 70% of the value of its rubber imports.

A serious or acute shortage may be expected before long. On June 30, 1939 (latest available estimate) stocks in general warehouses amounted to only 1,092 metric tons, though no information as to stocks held by industrial concerns at the outbreak of the war is available. It is doubtful if synthetic rubber is being produced to any appreciable extent, probably not more than 1000 tons per year. In 1940, Italy was able to import only 25,622 tons, c. 24% of which by weight was reexported in the form of tires and tubes. Now she is entirely cut off from her usual foreign sources of rubber, Malaya, Ceylon and the Netherlands Indies, and is again thrust into dependence on Germany.

This is reflected in the fact that in the first six months of 1941 Germany provided 5,611 (presumably buna) of the 8,517 metric tons of crude, solid rubber which Italy was able to obtain. But since the exhaustion of the German stock-pile may be anticipated in 1942 or 1943, Italy can look for little more from its partner.

The great majority of private cars have long been garaged and their well-preserved tires requisitioned. On October 15th, requisitioning was

Foreign Agriculture, Nov. 1940, p. 693; I.C.P.F.T., pp. 171-72, 271. I.F.T.S., p. 28; R.W.E.R., 13,X,41.)

Textiles

For some years, Italian silk production has been declining. In 1938, 2739 metric tons of raw silk were produced as compared with 6310 in 1930. 80% of production has been absorbed by export, so that the decrease in production has not meant a proportional decrease in domestic consumption. This has continued true during the war, for about two-thirds of the total Italian raw silk production for 1940 was bought outright by the Germans, while out of the rest, Italy sold Germany four million meters of parachute silk.

While little cotton is produced in Italy (average production 1936-38 was 5270 metric tons), it is imported in great quantities (1936-38 average - 141,667 tons), principally from the United States, Egypt, British India, Brazil and Turkey. On the other hand, much of this was reexported in the form of cotton cloth which, with 6.4%, ranked first in value among Italian exports of 1938.

It is clear that the war has dealt a heavy blow to this great industry. At the outbreak, stocks of raw cotton were estimated at 50,000 tons. Imports of raw cotton fell to 107,317 metric tons in 1940 (86,574 in the first six months), and fell again in the first six months of 1941, to only 2682 tons. Even though exports declined sharply also, there appears to be good reason to believe the reports that the supply was nearly exhausted in January, 1941 when all cotton was restricted to military use.

The development in wool has paralleled that in cotton though the contrasts have been less extreme. From 1936-38, production of raw wool averaged 17,234 metric tons, imports, 34,600 tons. With 2.9%, woolen cloth ranked seventh by value in the Italian exports of 1938. The chief foreign sources of supply having been cut off by the war, imports of raw wool fell from 16,662 tons in the first half of 1940 (approximately the normal rate), to 2551 in

the corresponding period of 1941, while exports of wool manufactures declined also. Without more detailed information, these figures justify only a guess that a wool shortage exists, partially substantiated by reports of Italian efforts, without much success, to obtain wool from the Iberian peninsula and from Turkey.

The textile situation is further complicated by the possibility of replacing natural by artificial fabrics. Demonstration of an Italian textile shortage must include proof that shortages in silk or cotton or wool cannot be repaired by expanded production of artificial textiles. The complexity of the situation is such, however, that this proof cannot be given without more detailed study. All that can be said is that the evidence indicates that the supply of artificial fabrics for domestic use has declined slightly since the outbreak of the war and has therefore failed to compensate for the deficiencies in cotton and wool.

Italy has long been a leader in this industry, despite the fact that she produces only a negligible quantity of the wood pulp or cellulose upon which it depends. Indeed this trail, as so many, leads back to German hegemony. For, of Italy's principal suppliers of cellulose in 1936-38 and in 1940, Sweden, Finland, Germany, Czechoslovakia and Norway, every one is either dominated by Germany or dependent on the German system of transportation.

(B.M.E.W.-S.E.E.D. No. 85, Apr. 30, No. 95, July 14, No. 111, Oct. 29, 1941; Foreign Agriculture, vol. IV., No. 11, p. 193; I.C.P.F.T., pp. 95-97, 131, 171, 181-2, 198-9; I.F.T.S. '40-'41 and 1940; M.I.D. Interview, C.O.I. No. 8554; W.P.R.M., pp. 43-47).

Leather

From 1934-38, Italian imports of hides and skins averaged 35,500 metric tons, while exports were 40% by value of the imports. In the first half of 1940, imports totalled 14,138 tons (a decline of c.20% in the rate of importation), while exports declined to c. 16% by weight. Although Italy's colonies have supplied her with c. 25% of the imports of hides and skins, they could not prevent the disastrous decline in the first half of 1941 to only 2501 tons, exports becoming negligible. Foreign sources are now either cut off or subject to German influence. Hence, it is not surprising that a serious leather shortage is reported, that shoes are so expensive that two pairs would use up at least 33% (at most 133%), of the points of the year's clothing card, and that a decree of November 1, 1941 reserved all cattle hides and goat skins exclusively for military and other special purposes.

(B.M.E.W.-S.E.E.D. No. 95, July 14, No. 104, Sept. 10, No. 109, Oct. 20, No. 112, Nov. 5, 1941; I.C.P.F.T. pp. 95, 172, 270; I.F.T.S. '40-'41.)

Foodstuffs

In recent months there have been many symptoms of weakness in the Italian food situation, such as the imposition of rationing and innumerable reports of shortages, poor quality and rapidly rising prices. Analysis of five essential foodstuffs, wheat, meats, cheese, olive oil, and fat, discloses behind these symptoms, a conspicuously uniform pattern of declining supply.

Of the five, cheese alone is normally a surplus commodity, i.e. produced in sufficient quantity to permit a net export. In the other four, Italy has usually in recent years failed to achieve self-sufficiency, although by less than 10% in each case. At least since Italy entered the war, there has been in every case a sharp decline in domestic production from the 1936-38 average as from the unusually bountiful harvest of 1938. And, although net imports rose in 1940 for wheat, olive oil and fats, as the war has cut down foreign sources of supply, gross and net imports fell for these foodstuffs and also for meat. The result has been a sharp decline from 1938-39 to 1940-41 in the supplies available for domestic consumption: in wheat 16.18%; cheese 20.37%; meat 20.01%; olive oil 17.48%; fats and lard 19.97%. For the urban population, the reduction has been much more severe, at least in wheat, olive oil and fat, the producers of which have been permitted by the government to retain a disproportionate share of the output. Where figures are available for the 1941 harvest, as in wheat and olive oil, they do not give hope for any improvement.

Hence reductions in production and in imports, rather than exportation to Germany, are the primary causes for deficiencies in the five food stuffs under consideration, although Germany is taking an increasingly large proportion of the total Italian supply of cheese and of certain other foodstuffs,

which are not discussed here. At least in the case of cheese, this is further depleting an already reduced supply available for home consumption, as the following table will indicate:

(In quintals)	<u>1938-39</u>	<u>1940-41</u>
Domestic production	2,573,000	2,000,000
Imports.....	45,588	41,911
Exports to all countries.....	240,878	151,812
Net exports.....	195,290	109,901
<u>Exports to Germany.....</u>	15,517	85,612
Available for domestic consumption.....	2,377,710	1,890,019

The decline in production of olive oil and fat deprives Italy of one of the few potential means of strengthening her position in the Axis.

Fettversorgung is supposed to be a joint in the German armor, and a substantial surplus would strengthen Italy's otherwise weak bargaining power, though for olive oil the Reich could turn to the larger Spanish production.

Of course, the foodstuffs considered in detail here are only five among the many which Italy produces. Of the others, the supply available for domestic consumption was lower in the period July 1940 to June 1941 than in the corresponding months of 1938 - 1939 for rye, barley, fresh green vegetables, nuts and butter; higher for corn, rice, tomatoes and fresh fruit. The supplies of sugar and wine are thought to be adequate, though the individual sugar ration was reduced on October 1, 1941 from 600 to 500 grams per month. It would take a public health expert to determine to what extent an adequate supply of these foodstuffs can compensate for the deficiencies already stressed, albeit deficiencies from the bountiful year 1938-39, or

Meats, fresh and frozen

<u>(in Quintals)</u>	<u>Domestic Production</u>	<u>Net Imports</u>	<u>Supply Available for Domestic Consumption</u>
Average 1936-38	6,132,380	457,719	6,590,099
1938	6,464,000	<u>July 1, 1938, - June 30, 1939</u> 274,638	6,738,638
		1940 <u>90,378</u>	
1940	5,366,495	<u>July 1, 1940, - June 30, 1941</u> 23,505	5,390,000

Despite the relative unimportance of meat in the Italian diet, the effect of this decline must be added to that of other foods. That the Italians realize this is shown by the development of a process to substitute fish waste for meat as a base for extract.

It should be added that imports of cattle jumped from 190,558 quintals in 1938-39 to 716,278 in 1940-41. On the other hand, the government has been obliged to grant a subsidy to prevent decline in the number of cattle, presumably to prevent excessive butchering to make up for the shortage in meat. Failure to publish a figure on the weight of cattle produced in 1940 justifies suspicion of a serious decrease.

(Corriere della Sera, Aug. 20, 1941 as reported in C.O.I. No. 4980.).

to decide how much the Italian people can tighten their belts before serious undernourishment results and their war effort, if any, weakens. But a decline of at least 15 - 20% in wheat, cheese and meat, oil and fat, appears serious in itself. In particular, considering the importance of olive oil in the Italian diet, the reduction in the available supply together with that of fat (the fat ration is estimated to be 40% less for the urban population than in peacetime), would seem to justify the concern which the Corriere della Sera is reported to have admitted.

<u>Wheat</u>			
<u>In</u>	<u>Domestic</u>	<u>Net Imports</u>	<u>Supply Available</u>
<u>quintals</u>	<u>Production</u>		<u>for Domestic</u>
			<u>Consumption</u>
Average			
1936-38	74,618,529	6,127,248	80,745,777
		July 1, 1938 - June 30, 1939	
1938	81,838,000	4,770,960	86,608,960
		1940	
		6,846,080	
		July 1, 1940 - June 30, 1941	
1940	71,102,000	1,489,590	72,591,590
1941	71,585,000*	---	---

* It has been suggested that this is an arbitrary figure given out in order to indicate an increase over the 1940 crop, to which the authorities had committed themselves, (B.M.E.W.-S.E.E.D. No. 113, Nov.21,1941).

Self-sufficiency in wheat, the "principal Italian food," requires an annual production of 82,000,000 quintals. Italy is able to achieve this only in unusually favorable years, such as 1938 (1937 and 1939 were almost as good). Thus in normal years, Italy must import varying quantities of wheat, the European sources in recent years having been Bulgaria, Hungary, Jugoslavia and Roumania.

Cheese

<u>(In Quintals)</u>	<u>Domestic Production</u>	<u>Net Exports</u>	<u>Supply Available for Domestic Consumption</u>
Average 1936-38	2,390,666	184,580	2,206,086
1938	2,573,000	<u>July 1, 1938 - June 30, 1939</u> 195,290	2,377,710
		1940 139,305	
1940	2,000,000	<u>July 1, 1940 - June 30, 1941</u> 109,981	1,890,019

Olive Oil

<u>(In Quintals)</u>	<u>Domestic Production</u>	<u>Net Imports</u>	<u>Supply Available for Domestic Consumption</u>
Average 1936-38	1,961,904	41,576	2,003,559
1938	1,778,000	<u>July 1, 1938 - June 30, 1939</u> 116,038	1,894,038
		1940 223,922	
1940	1,450,000	<u>July 1, 1940 - June 30, 1941</u> 113,053	1,563,053
1941	c.1,500,000*	---	---

* B.M.E.W.-S.E.E.D. No. 113, Nov. 21, 1941.